

Abstract

An improved nozzle and iodine injector system for use in a COIL are disclosed. The improved nozzle is a two-dimensional, minimum
5 length nozzle with a curved sonic line. The iodine injection system utilizes a series of slender struts for iodine injection into the oxygen stream through a series of small orifices that are located along the base of each strut. The struts are located within the nozzle such that the need for a diluent gas for the iodine is reduced. The use of the nozzle
10 and iodine injection system, particularly when combined with the SOG disclosed in U.S. Patent Application Serial No. 10/453,148, have the potential for yielding a highly efficient, high power, optically superior COIL device that is compact, scalable, can operate in space, and has good pressure recovery potential.

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